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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,498	10/23/2003	Karlheinz Winter	32128-187212	6037
26694	7590	11/03/2006	EXAMINER	
VENABLE LLP			EASHOO, MARK	
P.O. BOX 34385			ART UNIT	
WASHINGTON, DC 20043-9998			PAPER NUMBER	
			1732	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/690,498

**Applicant(s)**

WINTER ET AL.

**Examiner**

Mark Eashoo, Ph.D.

**Art Unit**

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 18-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2 ea.</u> | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Information Disclosure Statement*

The information disclosure statements filed 25-AUG-2006 and 14-SEP-2006 comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. Accordingly, they have been placed in the application file and the information referred to therein has been considered as to the merits.

It is noted that the Arnaud et al. patent on the IDS filed 14-SEP-2006 has been lined-through because this reference has been previously considered.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the limitation "is between approximately 700-1500 bar" is not supported by the original disclosure. The original disclosure does support a limitation wherein "does not exceed approximately 700-1500 bar" which is a boarder limitation than as instantly amended and is inclusive of much lower operating pressures.

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenhalgh et al. (US Pat. 3,979,488).

Regarding claims 1-3: Greenhalgh et al. teaches the basic claimed process for making peroxide crosslinked extruded polymer parts, comprising: heating a cross-linkable/curable polymer (Fig. 1 and 6:35-55); heating the polymer to a temperature above the polymer melt temperature is below that of the cross-linking temperature (4:45-60 and 9:30-10:45); continuously feeding the heated/melted composition to an extrusion

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die to form a part (Fig. 1); and maintaining the temperature in the extrusion die above the cross-linking temperature to cause at least partial cross-linking (5:29-6:35).

Greenhalgh et al. does not teach controlling the temperature in an extruder using a heating/cooling unit. However, Greenhalgh et al. does suggest that “ideally” that temperature in the extruder is controlled form by mechanical working and acknowledges that as “a practical matter ideal conditions are difficult if not impossible to achieve” (5:50-6:35). Nonetheless, Official Notice is given that temperature control of extruders by internal or external heating/cooling means is well known in the extrusion art. At the time of invention a person of ordinary skill in the art would have found it obvious to have used an internal or external heating/cooling means to aid in controlling extruder temperatures, as commonly practiced in the art, in the process of Greenhalgh et al., and would have been motivated to do so in order help prevent fouling of the extruder due to premature curing.

Regarding claim 4: Greenhalgh et al. teaches that various other types of extrusion apparatus may be used (7:10-20). Official Notice is given that twin screw extruders are well known in the extrusion art. At the time of invention a person of ordinary skill in the art would have found it obvious to have used a twin screw extruder, as commonly practiced in the art, in the process of Greenhalgh et al., and would have been motivated to do so since such extruders are known to provide very good mixing (eg. uniform distribution of curing agent).

Regarding claim 5-6: Greenhalgh et al. also teaches heating the die a variety of heat sources (8:29-36).

Regarding claims 7-14: Greenhalgh et al. teaches that the processing temperatures are controlled to a level of about 25-50°F of the curing temperature before reaching the die and heated to safely and expeditiously cure the material (6:10-35). Accordingly, Greenhalgh et al. substantially suggests optimization of the processing temperatures. At the time of invention a person of ordinary skill in the art would have found it obvious, if not implicit therein, to have optimized the processing/curing temperatures through routine experimentation, as commonly practiced in the art, in the process of Greenhalgh et al., and would have been motivated to do so in order to help prevent fouling of the extruder due to premature curing and/or over-curing.

Additionally, it is noted that Greenhalgh et al. contemplates a variety of polymers, including polyolefins, and commercially available curing agents (6:35-50). It is submitted that a person of ordinary skill in the art would recognize that the process conditions would be optimized according to the materials used to make the product.

Regarding claim 15: Greenhalgh et al. teaches holding the part at a curing temperature after (Fig. 1, element 60) after it passes through the die (Fig. 1, element 58).

Regarding claim 16: It is implicit that the extruded part of Greenhalgh et al. is cooled after cooling in order for the part to be used by a consumer.

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Regarding claim 17: Greenhalgh et al. teaches an extrusion pressure of below 290 bar or 4200 psig (table 1) and also teaches that temperature, pressure, and screw speeds are all optimizable for a variety of different polymeric materials (7:10-20 and 8:55-60). Accordingly, it is submitted a person of ordinary skill in the art would have found it obvious to have optimized the process of Greenhalgh et al. through routine experimentation and would have been motivated to do so in order to obtain optimum product production depending upon the equipment used and the polymer being processed.

### ***Response to Arguments***

Applicant's arguments filed 25-AUG-2006 have been fully considered but they are not persuasive, because:

A.) To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art (See MPEP § 2144.03 C). Since applicant has not stated why the noticed fact is not considered to be common knowledge or well-known in the art, it is submitted that applicant has not adequately traversed the well known statement set forth in the above rejection. Nonetheless, applicant's alleged traverse neglects that Fukuda et al. (US Pat. 4,797,242), which was made of record in the prior Office action, provides evidence that temperature control of an extruder by use of external heating elements and water cooling is well known in the extrusion art, in particular, that of extruding thermosetting resins.

B.) In response to applicant's argument that there is no suggestion to combine the well known teachings, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Greenhalgh specifically teaches that "as a practical matter ideal conditions are difficult, if not impossible to achieve or maintain consistently" when referring to heating only by mechanical working of the polymer. (5:53-65). To remedy this impossibility, Greenhalgh then suggests the use of "supplemental external heating" (5:65-6:35). Therefore, it is maintained that the teachings as set forth in the art rejection above are properly combined.

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***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Mark Eashoo, Ph.D.  
Primary Examiner  
Art Unit 1732

October 31, 2006  
me

31/0ct/06